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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,038	07/17/2003	Takashi Takamura	81754.0096	2258

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EXAMINER

NGUYEN, DILINH P

ART UNIT PAPER NUMBER

2814

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,038

Applicant(s)

TAKAMURA, TAKASHI

Examiner

DiLinh Nguyen

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 6-9 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gupta (U.S. Pat. 5567648).

Gupta discloses a method for forming a semiconductor device, the method comprising:

forming one or more conductive members 32 electrically connecting the terminals 36 to each other (fig. 1); thereby short-circuiting the terminals so that voltage is not applied to the semiconductor chip package (fig. 1); and

disabling the electrical connection by an action of mounting the package on a printed circuit board 40 (figs. 1-3, column 2, lines 16-35), wherein the electrical connections are melted by a heat of soldering the terminals (fig. 3, column 2, lines 40-45) so that operation of the semiconductor chip package is not obstructed (fig. 3).

- Regarding claim 7, Gupta discloses that forming the conductive members 32 comprises forming solder members connecting the terminals, and wherein the action of mounting the package comprises soldering the terminals (figs. 1-3, column 1, lines 59-60).

- Regarding claim 8, Gupta discloses that forming the conductive members 32 comprises forming solder lines connecting the terminals (fig. 1).
- Regarding claim 9, Gupta discloses that forming the conductive members 32 comprise forming a conductive thin film (fig. 1, column 1, lines 59-62).
- Regarding claim 13, Gupta discloses that the solder lines are formed to a net-like structure (fig. 1).
- Regarding claim 14, Gupta discloses that the solder lines are formed to a single line-like solder member (fig. 1).
- Regarding claim 15, Gupta discloses that forming the conductive thin film comprises forming the conductive thin film on the terminals (figs. 1-2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta (U.S. Pat. 5567648) in view of Duley (U.S. Pat. 5546297).

Gupta substantially discloses all the limitations as claimed above. Gupta also discloses connecting the terminals 36 on the bond pads 42 (fig. 2, col. 2, lines 31-33). Gupta does not disclose the terminals are pin-shaped having protruding tips and wherein the action of mounting the package comprises inserting the terminals into sockets.

Duley discloses that sockets, pins, or pads are known technique in the art to connect the terminals on the circuit board (col. 3, lines 61-67 and col. 4, lines 1-3). In this case Duley discloses a plurality of pins 44 having protruding tips and wherein the action of mounting the package comprises inserting the terminals into sockets 58 (fig. 1, column 9, line 40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the known technique of sockets and pins as taught by Duley into the process of Gupta to mount the mount the package on the printed circuit board with better connection.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta (U.S. Pat. 5567648) in view of Fujiwara et al. (U.S. Pat. 4735847).

Gupta substantially discloses all the limitations as claimed above except the step of forming the conductive thin film comprises patterning the conductive thin film by a photolithography process and an etching process.

Fujiwara et al. disclose that photolithography and etching process are known method in the art to form a conductive thin film (column 13, lines 32-38). Therefore, it would have been obvious to one having ordinary skill in the art to select the known method of photolithography and etching as taught by Fujiwara et al. into the process of Gupta to form the conductive film.

Response to Arguments

Applicant argues that Gupta fails to disclose the method as claimed in claim 6, such as the terminals are first short-circuited, in order to avoid electrostatic damage to the semiconductor chip and the electrical connections are then disabled during the

mounting of the package on a circuit board by melting caused by soldering heat, so that operation of the semiconductor chip is not obstructed.

Applicant's arguments have been fully considered but they are not persuasive because Gupta discloses a method, as claimed by applicant, in claim 6 such as: forming one or more conductive members 32 electrically connecting the terminals 36 to each other (fig. 1), thereby short-circuiting the terminals and Gupta doesn't disclose the voltage is applied to the semiconductor chip package as this stage.

Gupta also discloses the step of disabling the electrical connection by an action of mounting the package on a printed circuit board 40 (figs. 1-3, column 2, lines 16-35), wherein the electrical connections are melted by a heat of soldering the terminals (fig. 3, column 2, lines 40-45); and fig. 3 clearly shows that the operation of the semiconductor chip package is not obstructed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN



HOAI PHAM
PRIMARY EXAMINER